

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An ink jet printhead comprising:

an integrated driving and encoding circuit having a grid-like structure including and comprising:

a plurality of inputs and a plurality of selecting elements,

a plurality of actuating elements associated with said driving and encoding circuits, and electrically connected to the plurality of inputs, the plurality of actuating elements suitable for being adapted to be selectively addressed and commanded by said selecting elements in response to at least one command signal received through said plurality of inputs, so as to cause the ejection of ink droplets from said ink jet printhead, and

at least one identifying element of said ink jet printhead, wherein each of said identifying elements of said ink jet printhead is part of the grid-like structure of the driving and encoding circuit, and is in electrical communication associated with a corresponding selecting element of said driving and encoding circuit, the at least one identifying element adapted to be selectively addressed and identified in response to at least one corresponding identifying signal received through said plurality of inputs.

2. (Previously Presented) The ink jet printhead according to claim 1, wherein said plurality of

actuating elements and each of said identifying elements are suitable for being sounded through at least one corresponding command signal received through said plurality of inputs, during a preliminary checking step, the purpose of which is to identify said ink jet printhead and to confirm the correct operation of said actuating elements.

3. (Previously Presented) The ink jet printhead according to claim 1, wherein said actuating elements are resistors and said ink jet printhead is of the thermal, bubble type for activating the ejection of said ink droplets.

4. (Previously Presented) The ink jet printhead according to claim 1, wherein said identifying elements are made of a plurality of resistors each resistor having a resistivity that has been selectively set during a manufacturing process of said ink jet printhead, depending on its characteristics.

5. (Currently Amended) The ink jet printhead according to claim 1, further comprising:

a substrate including a plurality of nozzles used for printing, and a plurality of nozzles not used for printing;

wherein the actuating elements occupy positions on the grid-like structure that are located in correspondence with the nozzles used for printing, and the said identifying elements occupy

positions ~~of~~ on the grid-like structure that are located in correspondence with the nozzles not used for printing.

6. (Currently Amended) An ink jet printhead comprising:

an integrated driving and encoding circuit having a grid-like structure and including comprising:

a plurality of inputs,

a plurality of selecting elements,

a plurality of actuating elements suitable for being adapted to be selectively addressed and commanded by said selecting elements in response to at least one command signal received through said plurality of inputs, so as to cause the ejection of ink droplets from said ink jet printhead, and

at least one identifying element of said ink jet printhead, wherein each of said identifying elements of said ink jet printhead is part of the grid-like structure of the driving and encoding circuit, and is in electrical communication associated with a corresponding selecting element of said driving and encoding circuit, ~~for being the~~ at least one identifying element adapted to be selectively addressed and identified in response to at least one corresponding identifying signal received through said plurality of inputs.

7. (Currently Amended) An integrated ink jet printhead comprising:

a plurality of actuating elements for causing ejection of ink droplets from said ink jet printhead,

an integrated driving and encoding circuit [[,]] having a grid-like structure, for selectively addressing and commanding each of said actuating elements, said grid-like structure being organized into rows and columns that define a plurality of nodes, with the plurality of actuating elements being located at the nodes corresponding to said actuating elements, and

one or more identifying elements of said ink jet printhead, wherein said one or more identifying elements of said ink jet printhead ~~correspond to~~ are located at the nodes arranged [[,]] along a given row or column of said grid-like structure, and further wherein said one or more identifying elements are also provided for being adapted to be scanned, together with said actuating elements, during a preliminary checking step, the purposes of which are both to identify said ink jet printhead and to confirm correct operation of said actuating elements.

8. (New) The ink jet printhead according to claim 6, further comprising:

a substrate including a plurality of nozzles used for printing, and a plurality of nozzles not used for printing;

wherein the actuating elements occupy positions on the grid-like structure that are located in correspondence with the nozzles used for printing, and the identifying elements occupy positions on the grid-like structure that are located in correspondence with the nozzles not used for printing.

9. (New) The integrated ink jet printhead according to claim 7, further comprising:

a substrate including a plurality of nozzles used for printing, and a plurality of nozzles not used for printing;

wherein the actuating elements occupy nodes on the grid-like structure that are located in correspondence with the nozzles used for printing, and the identifying elements occupy nodes on the grid-like structure that are located in correspondence with the nozzles not used for printing.